

detecting the uptake of the multilamellar liposome product at the target tissue by acoustic reflectivity.

27. The method of claim 26 wherein the target tissue is a tumor.

28. The method of claim 26 wherein the amphipathic compound in a biologically active conformation is characterized as having one or more α - or π -helical domains.

29. The method of claim 28 wherein the biologically active amphipathic compound is a member of the vasoactive intestinal peptide (VIP)/growth hormone releasing factor (GRF) family of peptides.

30. The method of claim 29 wherein the peptide is VIP.

REMARKS

The present application claims priority of international patent application PCT/US97/05161 filed March 28, 1997 which entered US National Phase as US patent application Serial No: 09/155,368 on September 28, 1998 and issued as US Patent 6,197,333 on March 6, 2001. At page 19, lines 14 through 16 of the present application, the disclosure of US Patent 6,197,333 is incorporated by reference.

AMENDMENT

In view of the remarks made above, the specific disclosure of the subject matter in the new claims is identified in the specification of US patent application Serial No: 09/155,368 as originally filed. Upon entry of the present amendment, pending claims in the application will read as set out in Appendix A hereto.

The subject matter of claim 15 is found at page 9, lines 17-24.

The subject matter of claim 16 is found at page 9, lines 24-25.

The subject matter of claim 17 is found at page 9, lines 25-27.

The subject matter of claim 18 is found at page 9, lines 27-28.

The subject matter of claim 19 is found at page 9, lines 28-29.

The subject matter of claim 20 is found at page 9, line 30.

The subject matter of claim 21 is found at page 9, line 30, through page 10, line 1.

The subject matter of claim 22 is found at page 10, lines 1-3.

The subject matter of claim 23 is found at page 10, lines 1-4.

The subject matter of claim 24 is found at page 10, lines 9-10.

The subject matter of claim 25 is found at page 9, lines 8-10.

The subject matter of claims 26 is found at page 10, lines 13-17.

The subject matter of claim 27 is found at page 10, lines 7-18.

The subject matter of claim 28 is found at page 10, lines 18-19.

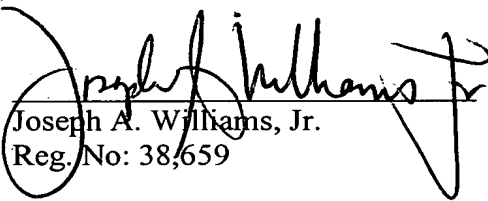
The subject matter of claim 29 is found at page 10, lines 19-21.

The subject matter of claim 30 is found at page 10, line 21.

The amendment therefore includes no new matter.

Respectfully submitted,
MARSHALL, GERSTEIN & BORUN
6300 Sears Tower
233 South Wacker Drive
Chicago, IL 60606
(312) 474-6300

By:


Joseph A. Williams, Jr.
Reg. No: 38,659

APPENDIX A

Pending Claims

1. A method of treating a disease state selected from the group consisting of autism, multiple sclerosis, enuresis, Parkinson's disease, amyotrophic lateral sclerosis, brain ischemia, stroke, Cerebral palsy sleep disorder, feeding disorder and AIDS-associated dementias, comprising the step of administering to an individual suffering from the disease state an amount of a liposome composition effective to alleviate conditions associated with the disease state, said liposome composition prepared by a method comprising the steps of:

a) mixing a combination of lipids wherein said combination includes at least one lipid component covalently bonded to a water-soluble polymer;

b) forming sterically stabilized liposomes from said combination of lipids;

c) obtaining liposomes having an average diameter of less than about 300 nm;
and

d) incubating liposomes from step (c) with a biologically active amphipathic compound under conditions in which said compound becomes associated with said liposomes from step (c) in an active conformation, wherein at least one amphipathic compound is a member of the VIP/glucagon/secretin family of peptides including peptide fragments and analogs.

2. The method according to claim 1 wherein said liposome composition comprises unilamellar liposomes.

3. The method according to claim 1 wherein said liposome composition comprise multivesicular liposomes.

4. The method of according to claim 3 wherein said multivesicular liposomes are produced by carrying out the steps of sequentially dehydrating and rehydrating liposomes obtained in step (c) with said biologically active peptide.

5. The method according to any one of claims 1 through 4 wherein said water-soluble polymer is polyethylene glycol (PEG).

6. The method according to claim 1 wherein the amphipathic compound is characterized by having one or more α - or π -helical domains in its biologically active conformation.
7. The method according to claim 6 wherein the amphipathic compound is a member of the vasoactive intestinal peptide (VIP)/growth hormone releasing factor (GRF) family of peptides.
8. The method according to claim 7 wherein the amphipathic compound is a member of the VIP/glucagon/secretin family of peptides, including peptide fragments and analogs thereof.
9. The method according to claim 1 wherein the liposomes obtained in step (c) have an average diameter or less than about 200 nm.
10. The method according to claim 9 wherein the liposomes obtained in step (c) have an average diameter or less than about 100 nm.
11. The method according to any one of claims 1, 8, or 9 wherein the liposomes are obtained in step (c) by extrusion to form liposomes having a selected average diameter.
12. The method according to any one of claims 1, 8, or 9 wherein the liposomes are obtained in step (c) by size selection.
13. The method according to claim 1 wherein the combination of lipids consists of distearoyl-phosphatidylethanolamine covalently bonded to PEG (PEG-DSPE), phosphatidylcholine (PC), and phosphatidylglycerol (PG) in further combination cholesterol (Chol).
14. The method according to claim 13 wherein the combination of lipids are combined with cholesterol in a PEG-DSPE:PC:PG:Chol molar ratio of 0.5:5:1:3.5.
15. A method of preparing an echogenic liposome diagnostic product comprising a biologically active amphipathic compound in association with a liposome; said compound capable of permitting specific targeting within a recipient; said method comprising the steps of:

- a) mixing a combination of lipids wherein said combination includes at least one lipid component covalently bonded to a water-soluble polymer;
- b) forming and obtaining liposomes from said combination of lipids;
- c) incubating liposomes from step (b) with a biologically active amphipathic compound under conditions in which said compound becomes associated with said liposomes from step (b) in an active conformation; and
- d) forming multilamellar liposome products having an average diameter of less than about 1000 nm.

16. The method of claim 15 wherein the multilamellar liposome products are formed by carrying out a lyophilization step.

17. The method of claim 15 wherein the liposomes obtained in step (b) have an average diameter of less than about 300 nm.

18. The method according to claim 17 wherein the liposomes are obtained in step (b) by extrusion.

19. The method according to claim 15 wherein the multilamellar liposome products have an average diameter of less than about 800 nm.

20. The method according to claim 15 wherein the multilamellar liposome products have an average diameter of less than about 300 nm.

21. The method according to any one of claims 15 through 20 wherein the water soluble polymer is PEG.

22. The method of claim 15 wherein the amphipathic compound in a biologically active conformation is characterized as having one or more α or π helical domains.

23. The method of claim 15 wherein the biologically active amphipathic compound is a member of the vasoactive intestinal peptide (VIP)/growth hormone releasing factor (GRF) family of peptides.

24. The method of claim 15 wherein the peptide is VIP.

25. An echogenic liposome diagnostic product manufactured by the method according to any one of claims 15 through 24.

26. A diagnostic method comprising the steps of:

preparing a multilamellar liposome product comprising a biologically active amphipathic compound in association with a liposome according to the method of claim 15 through 24;

administering a diagnostically effective amount of said multilamellar liposome product to a target tissue; and

detecting the uptake of the multilamellar liposome product at the target tissue by acoustic reflectivity.

27. The method of claim 26 wherein the target tissue is a tumor.

28. The method of claim 26 wherein the amphipathic compound in a biologically active conformation is characterized as having one or more α or π helical domains.

29. The method of claim 28 wherein the biologically active amphipathic compound is a member of the vasoactive intestinal peptide (VIP)/growth hormone releasing factor (GRF) family of peptides.

30. The method of claim 29 wherein the peptide is VIP.